Welcome to GridKa School 2013!

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KIT Focus COMMputation
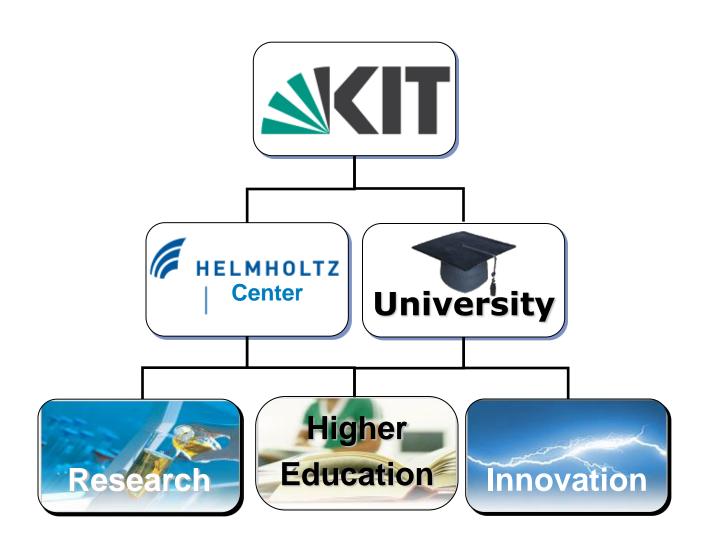
KIT – One Entity, Two Missions, Three Tasks

One
Entity

Two
Missions

Three
Tasks

KIT – Centers, Focuses, and Schools

KIT-Centers

- Energy
- NanoMicro
- Elementary Particle and Astroparticle Physics
- Climate and Environment
- Mobility Systems

KIT-Focuses

- COMMputation
- Humans and Technology
- Optics and Photonics
- Anthropomatics and Robotics

KIT-Schools

- KSOP
- KSETA
- ⋮
- School of Energy

KIT-Focus COMMputation

- Relevance of **Communication** and **Computation**:
  - Increasing presence of intelligent embedded systems
  - Numerous intelligent objects ("devices") capable
    - to **communicate** among each other and with humans
    - to **be aware** of their environment
    - to **adapt** to dynamically changing requirements
  - Typical objects:
    computers, mobile phones, cars, air planes, appliances, ….

- **Emphasis on concepts, architectures, methods, tools,** and **selected applications** of
  - Information processing,
  - Communication,
  - Services,

  to guarantee **trustworthy, robust** and **efficient behaviour** of complex, adaptive systems.

KIT Focus COMMputation:
Topical Structure and Exemplary Applications

Smart home

Smart energy

Intelligent Traffic Control

Cloud Computing

Future Store

Wearable Computing

Complex systems based on communication and computation

Grid and Scientific Computing

Systems Engineering

Service and Web Engineering

Algorithm and Software Engineering

Communication Technology

ICT Infrastructure for Cyber-physical Systems